Human Coch-5B2 cDNA Sequence

1 GCACTCGGGC GCAGCCGGGT GGATCTCGAG CAGGTGTGAG
CAGCCTATCA GTCACCATGT CCGCAGCCTG GATCCCGGCT CTCGGCCTCG
GTGTGTGTCT GCTGCTGCTG CCGGGGCCCG CGGGCAGCGA GGGAGCCGCT
CCCATTGCTA TCACATGTTT TACCAGAGGC TTGGACATCA GGAAAGAGAA
AGCAGATGTC CTCTGCCCAG GGGGCTGCCC TCTTGAGGAA TTCTCTGTGT
ATGGGAACAT AGTATATGCT TCTGTATCGA GCATATGTGG GGCTGCTGTC
CACAGGGGAG TAATCAGCAA CTCAGGGGGA CCTGTACGAG TCTATAGCCT
ACCTGGTCGA GAAAACTATT CCTCAGTAGA TGCCAATGGC ATCCAGTCTC
AAATGCTTTC TAGATGGTCT GCTTCTTTCA CAGTAACTAA AGGCAAAAGT
AGTACACAGG AGGCCACAGG ACAAGCAGTG TCCACAGCAC ATCCACCAAC
AGGTAAACGA CTAAAGAAAA CACCCGAGAA GAAAACTGGC AATAAAGATT
GTAAAGCAGA CATTGCATTT CTGATTGATG GAAGCTTTAA TATTGGGCAG
CGCCGATTTA ATTTACAGAA GAATTTTGTT GGAAAAGTGG CTCTAATGTT
GGGAATTGGA ACAGAAGGAC CACATGTGGG CCTTGTTCAA GCCAGTGAAC
ATCCCAAAAT AGAATTTTAC TTGAAAAACT TTACATCAGC CAAAGATGTT
TTGTTTGCCA TAAAGGAAGT AGGTTTCAGA GGGGGTAATT CCAATACAGG
AAAAGCCTTG AAGCATACTG CTCAGAAATT CTTCACGGTA GATGCTGGAG
TAAGAAAAGG GATCCCCAAA GTGGTGGTGG TATTTATTGA TGGTTGGCCT
TCTGATGACA TCGAGGAAGC AGGCATTGTG GCCAGAGAGT TTGGTGTCAA
TGTATTTATA GTTTCTGTGG CCAAGCCTAT CCCTGAAGAA CTGGGGATGG
TTCAGGATGT CACATTTGTT GACAAGGCTG TCTGTCGGAA TAATGGCTTC
TTCTCTTACC ACATGCCCAA CTGGTTTGGC ACCACAAAAT ACGTAAAGCC
TCTGGTACAG AAGCTGTGCA CTCATGAACA AATGATGFGC AGCAAGACCT
GTTATAACTC AGTGAACATT GCCTTTCTAA TTGATGGCTC CAGCAGTGTT
GGAGATAGCA ATTTCCGCCT CATGCTTGAA TTTGTTTCCA ACATAGCCAA
GACTTTTGAA ATCTCGGACA TTGGTGCCAA GATAGCTGCT GTACAGTTTA
CTTATGATCA GCGCACGGAG TTCAGTTTCA CTGACTATAG CACCAAAGAG
AATGTCCTAG CTGTCATCAG AAACATCCGC TATATGAGTG GTGGAACAGC
TACTGGTGAT GCCATTTCCT TCACTGTTAG AAATGTGTTT GGCCCTATAA
GGGAGAGCCC CAACAAGAAC TTCCTAGTAA TTGTCACAGA TGGGCAGTCC
TATGATGATG TCCAAGGCCC TGCAGCTGCT GCACATGATG CAGGAATCAC
TATCTTCTCT GTTGGTGTGG CTTGGGCACC TCTGGATGAC CTGAAAGATA
TGGCTTCTAA ACCGAAGGAG TCTCATGCTT TCTTCACAAG AGAGTTCACA
GGATTAGAAC CAATTGTTTC TGATGTCATC AGAGGCATTT GTAGAGATTT
CTTAGAATCC CAGCAATAAT GGTAACATTT TGACAACTGA AAGAAAAAGT
ACAAGGGGAT CCAGTGTGTA AATTGTATTC TCATAATACT GAAATGCTTT
AGCATACTAG AATCAGATAC AAAACTATTA AGTATGTCAA CAGCCATTTA
GGCAAATAAG CACTCCTTTA AAGCCGCTGC CTTCTGGTTA CAATTTACAG
TGTACTTTGT TAAAAACACT GCTGAGGCTT CATAATCATG GCTCTTAGAA
ACTCAGGAAA GAGGAGATAA TGTGGATTAA AACCTTAAGA GTTCTAACCA
TGCCTACTAA ATGTACAGAT ATGCAAATTC CATAGCTCAA TAAAAGAATC

FIG. 1A

TGATACTTAG ACCAAAAGCA ACATTCGTTC TCTAACCATT CTGTATTGAT
TATATAAGCA AAATGAAAAG AGAAACTTAA ATGAACACAG CTCTTTAACA
TGGTTCAGGT ACACATATTT TGACCCAAGT GGATATTTTC TTAAAACCAA
TCAATAATAG CTAGCTATTA CTGCAGACTA TAAAATCTGG ATATAGAAAG
GAGACCTGTA TCAAACTGCT TTTGTAGTGT GTTTTCATAA CAACTTATGA
CTAAAAATAT CACACTGAAT AAGAGAGCAG GATTGCCAGG TATTTTTCTA
TTTCTCTCCT TAATTTTATA TGTATATAGA TATATTTGGC TTATATTCTA
AGTCACCTAA GTACTTAAAA GTTAAGTTGG TAAAGTATTT ACTGACTGCT
TATAAACATT TAAAGACAAA GACATTTCAA ATAACTGCAG AAAAAATATT
GTAGTTTGAA TATTTAAGCA ATAAAACTGC TAGTGAGTTA TTGT

FIG. 1B

Human Coch-5B2 Amino Acid Sequence

1 MSAAWIPALG LGVCLLLLPG PAGSEGAAPI AITCFTRGLD IRKEKADVLC
PGGCPLEEFS VYGNIVYASV SSICGAAVHR GVISNSGGPV RVYSLPGREN
YSSVDANGIQ SQMLSRWSAS FTVTKGKSST QEATGQAVST AHPPTGKRLK
KTPEKKTGNK DCKADIAFLI DGSFNIGQRR FNLQKNFVGK VALMLGIGTE
GPHVGLVQAS EHPKIEFYLK NFTSAKDVLF AIKEVGFRGG NSNTGKALKH
TAQKFFTVDA GVRKGIPKVV VVFIDGWPSD DIEEAGIVAR EFGVNVFIVS
VAKPIPEELG MVQDVTFVDK AVCRNNGFFS YHMPNWFGTT KYVKPLVQKL
CTHEQMMCSK TCYNSVNIAF LIDGSSSVGD SNFRLMLEFV SNIAKTFEIS
DIGAKIAAVQ FTYDQRTEFS FTDYSTKENV LAVIRNIRYM SGGTATGDAI
SFTVRNVFGP IRESPNKNFL VIVTDGQSYD DVQGPAAAAH DAGITIFSVG
VAWAPLDDLK DMASKPKESH AFFTREFTGL EPIVSDVIRG ICRDFLESQQ
551 *

FIG. 1C

Mouse Coch-5B2 cDNA Sequence

1 CGGAGCCGCG CTTGCCGCAC TCGGGTGTAG CCGGGCGGAT
CCCACGCAGG TCCACGGAGA TCCTCGCCAT GCCCTCGTCC AGGATCCCTG
CTCTCTGCCT CGGTGCGTGG CTGCTGCTGC TGCTGCTGCC CCGGTTCGCG
CGCGCCGAGG GAGCGGTTCC CATTCCTGTC ACCTGCTTTA CCAGAGGCCT
GGATATCCGA AAAGAGAAAG CAGATGTTCT CTGCCCAGGA GGCTGCTCTC
TTGAGGAATT CTCTGTGTTT GGGAACATAG TGTATGCGTC AGTGTCCAGC
ATCTGCGGCG CTGCTGTCCA TAGGGGAGTG ATTGGCACCT CAGGGGGACC
TGTGCGTGTC TACAGCCTTC CTGGTCGAGA GAACTACTCC TCGGTAGATG
CCAACGGCAT CCAGTCTCAG ATGCTTTCCC GATGGTCCGC GTCCTTCGCT
GTGACCAAAG GCAAAAGCAG TACCCAGGAA GCCACAGGAC GGGCAGTGTC
CACAGCCCAC CCACCTTCAG GTAAAAGACT AAAGAAGACA CCAGAGAAGA
AGACTGGCAA CAAAGACTGT AAGGCAGACA TTGCATTTCT CATTGATGGA
AGCTTCAATA TTGGGCAGCG CCGATTTAAT TTGCAGAAGA ATTTTGTTGG
GAAAGTGGCA CTAATGTTGG GAATTGGAAC AGAAGGACCA CACGTGGGTC
TCGTTCAAGC CAGTGAACAC CCCAAAATAG AATTTTACTT GAAAAACTTT
ACTTCAGCCA AAGATGTCTT GTTTGCCATA AAAGAAGTAG GTTTCCGAGG
GGGTAACTCC AACACAGGAA AAGCCTTGAA GCACACTGCT CAGAAATTCT
TTACAGCAGA CACTGGTGTG AGAAAAGGAA TACCAAAAGT GGTGGTAGTG
TTTATTGATG GTTGGCCCTC TGATGACATT GAGGAAGCAG GCATTGTGGC
CAGAGAGTTT GGTGTCAATG TATTTATAGT TTCTGTGGCC AAGCCCATTC
CTGAAGAACT GGGGATGGTT CAAGATGTTG CATTTGTTGA CAAGGCTGTG
TGTCGGAATA ATGGCTTCTT CTCTTATCAC ATGCCCAACT GGTTTGGCAC
TACAAAATAT GTGAAGCCTC TGGTGCAGAA GCTCTGTACG CACGAACAGA
TGATGTGCAG CAAAACCTGC TACAACTCAG TGAACATTGC CTTTCTGATT
GACGGCTCCA GCAGTGTTGG AGATAGCAAT TTCCGCCTCA TGCTAGAATT
TGTTTCTAAC ATAGCGAAGA CATTTGAAAT CTCAGACATT GGAGCCAAGA
TAGCTGCTGT ACAGTTCACT TATGACCAGC GCACCGAGTT CAGTTTCACT
GACTATAATA CCAAAGAGAA CGTCCTAGCT GTCCTAGCGA ACATCCGCTA
CATGAGTGGT GGCACAGCTA CTGGTGATGC CATCGCCTTT ACTGTTAGAA
ATGTATTTGG TCCCATAAGG GACAGCCCCA ACAAAAACTT CCTGGTTATT
GTCACAGATG GGCAGTCCTA TGATGATGTC CGAGGCCCTG CTGCAGCTGC
CCATGATGCA GGTATCACCA TCTTCTCTGT TGGTGTGGCT TGGGCACCGC
TGGATGACCT GAGAGATATG GCCTCTAAAC CCAAAGAGTC ACACGCTTTC
TTTACCAGAG AGTTCACAGG GTTAGAACCA ATTGTCTCTG ACGTCATCAG
AGGCATTTGT AGAGACTTCT TAGAATCCCA GCAATAACCG ATACTCTGAC
AACTCAAGGA ATACGTGCAA GGGGATCTAA TGTGCAAATT ATATTCTCAA
TGCCTATGTA ACTTTATAGC TTACCAGTGT CAAAAAATGC GTCCACAGCT
GTTTAAAGCA AATGAATATT CATGTGATGC TCACAATTTA GATTGGCCGA
GACTTGATAA TCAGGCCCTT AGAAACTCAG GAAAGAAGAG TTGTCATGGA
TTAACATTGG GAGTTCAAAT ATGCATTCAA GTGGATAGGT AAGCTACACA
GCTCAATAAA AGAACCTGGC GCTTACACAC AAAGCACTGT TCCCTCTTTA
ATCACTCTGC ATTGACCATG CAAGGAAAAC AGAACAGCTT TTAAACACAG

FIG. 2A

ATCAAGTATA CATATTTTGA CCCATGTGGA TGTTTTCTTA AAACCAGCCA
AGAACAGACA GCTGTTATTA TGTGCACTAG CCATAACTAC ACATTATATG
GAATCATATA TCAAGCTTCT TTTGTAGTGT GTTTTCATAA CTTGATGGCT
GAAATACCAC ACTGAGTAAA GGTAGGATTG CCTGGTATTT TTCTATTTAT
ATCCTTAATT TTATGTGTAT AGACAGGCAT GTACTCCGAG GACTAAGAAA
ATGTTTAAGC AGATAACTTT TTTTTTTTGA AAAAAAAGAT GTGTCAAGTA
TTGTAACCGA AAAAATACAC AGCTTAATAG CTTGGCTGTC AGCAATAAAA
CTGCTAGTGA CTAAG

FIG. 2B

Mouse Coch-5B2 Amino Acid Sequence

1 MPSSRIPALC LGAWLLLLLL PRFARAEGAV PIPVTCFTRG LDIRKEKADV
LCPGGCSLEE FSVFGNIVYA SVSSICGAAV HRGVIGTSGG PVRVYSLPGR
ENYSSVDANG IQSQMLSRWS ASFAVTKGKS STQEATGRAV STAHPPSGKR
LKKTPEKKTG NKDCKADIAF LIDGSFNIGQ RRFNLQKNFV GKVALMLGIG
TEGPHVGLVQ ASEHPKIEFY LKNFTSAKDV LFAIKEVGFR GGNSNTGKAL
KHTAQKFFTA DTGVRKGIPK VVVVFIDGWP SDDIEEAGIV AREFGVNVFI
VSVAKPIPEE LGMVQDVAFV DKAVCRNNGF FSYHMPNWFG TTKYVKPLVQ
KLCTHEQMMC SKTCYNSVNI AFLIDGSSSV GDSNFRLMLE FVSNIAKTFE
ISDIGAKIAA VQFTYDQRTE FSFTDYNTKE NVLAVLANIR YMSGGTATGD
AIAFTVRNVF GPIRDSPNKN FLVIVTDGQS YDDVRGPAAA AHDAGITIFS
VGVAWAPLDD LRDMASKPKE SHAFFTREFT GLEPIVSDVI RGICRDFLES
QQ*

FIG. 2C

```
  1 MSAAWIPALGLG  VCLLLLPGPAGSEGAAPIAITCFTRGLDIRKEKADV 48
  1 .PSSR....C..AWLL.....RF.RA...V..PV................ 50

 49 LCPGGCPLEEFSVYGNIVYASVSSICGAAVHRGVISNSGGPVRVYSLPGR 98
 51 ......S...........F...............GT.............. 100

 99 ENYSSVDANGIQSQMLSRWSASFTVTKGKSSTQEATGQAVSTAHPPTGKR 148
101 .......................A.............R........S... 150

149 LKKTPEKKTGNKDCKADIAFLIDGSFNIGQRRFNLQKNFVGKVALMLGIG 198
151 .................................................. 200

199 TEGPHVGLVQASEHPKIEFYLKNFTSAKDVLFAIKEVGFRGGNSNTGKAL 248
201 .................................................. 250

249 KHTAQKFFTVDAGVRKGIPKVVVVFIDGWPSDDIEEAGIVAREFGVNVFI 298
251 .........A.T...................................... 300

299 VSVAKPIPEELGMVQDVTFVDKAVCRNNGFFSYHMPNWFGTTKYVKPLVQ 348
301 .................A................................ 350

349 KLCTHEQMMCSKTCYNSVNIAFLIDGSSSVGDSNFRLMLEFVSNIAKTFE 398
351 .................................................. 400

399 ISDIGAKIAAVQFTYDQRTEFSFTDYSTKENVLAVIRNIRYMSGGTATGD 448
401 ..........................N........LA............. 450

449 AISFTVRNVFGPIRESPNKNFLVIVTDGQSYDDVQGPAAAAHDAGITIFS 498
451 ..A..........D...................R................ 500

499 VGVAWAPLDDLKDMASKPKESHAFFTREFTGLEPIVSDVIRGICRDFLES 548
501 ...........R...................................... 550

549 QQ*  550
551 ... 552
```

FIG. 3

```
COCH-5B2  VA1   DIAFLIDGSFNIGQRRFNLQKNFVGKVALMLGIGTEGPHVGLVQASEHPK
COCH-5B2  VA2   NIAFLIDGSSSVGDSNFRLMLEFVSNIAKTFEISDIGAKIAAVQFTYDQR
COL12A 1  VA    DLVFLVDGSWSVGRNNFKYILDFIAALVSAFDIGEEKTRVGVVQYSSDTR
CMP       A1    DLVFLIDGSKSVRPENFELVKKFISQIVDTLDVSDKLAQVGLVQYSSSVR
VWF       A3    DVILLLDGSSSFPASYFDEMKSFAKAFISKANIGPRLTQVSVLQYGSITT

COCH-5B2  VA1   IEFYLKNFTSAKDVLFAIKEVGFRGGNSNTGKALKHTAQKFFTVDAGVRK
COCH-5B2  VA2   TEFSFTDYSIKENVLAVIRNIRYMSGGTATGDAISFTVRNVFGPIRESPN
COL12A1   VA    TEFNLNQYYQRDELLAAIKKIPYKGGNTMTDA-IDYLVKNTFTESAGARV
CMP       A1    QEFPLGRFHTKKDIKAAVRNMSYMEKGTMTGAALKYLIDNSFTVSSGARP
VWF       A3    IDVPWNVVPEKAHLLSLVDVMQREGGPSQIGDALGFAVRYLTSEMHGARP

COCH-5B2  VA1   GIPKVVVVFIDGWPSDDIEEAGIVAREFGVNVFIVSVAKPIPEEL
COCH-5B2  VA2   --KNFLVIVTDGQSYDDVQGPAAAAHDAGITIFSVGVAWAPLDDLKDMAS
COL12A1   VA    GFPKVAIIITDGKSQDEVEIPARELRNVGVEVFSLGIKAADAKELKQIAS
CMP       A1    GAQKVGIVFTDGRSQDYINDAAKKAKDLGFKMFAVGVGNAVEDEL
VWF       A3    GASKAVVILVTDVSVDSVDAAADAARSNRVTVFPIGI
```

FIG. 4

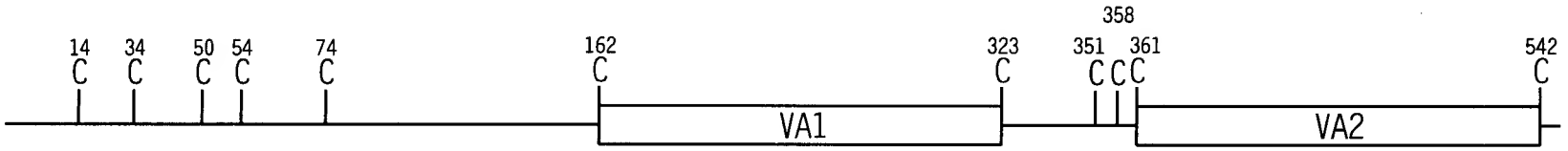

FIG. 5

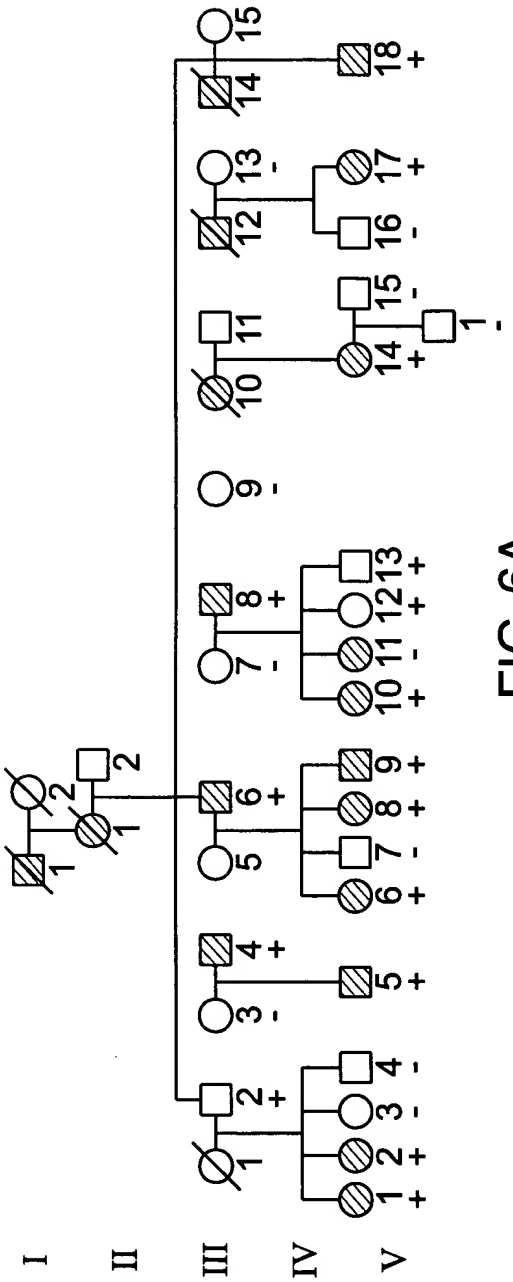

FIG. 6A

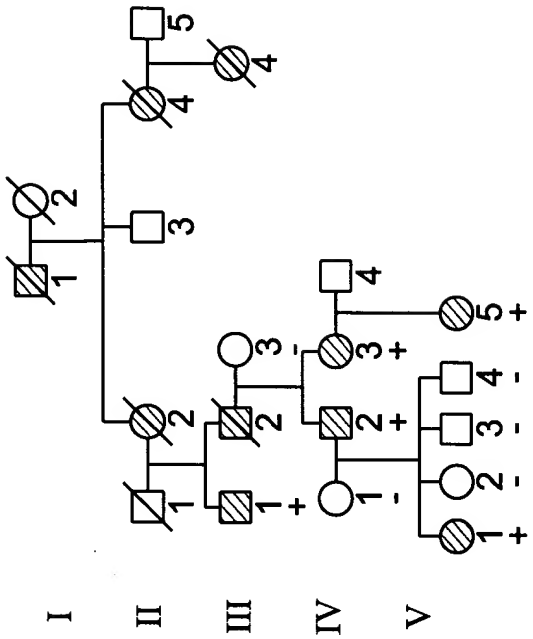

FIG. 6C

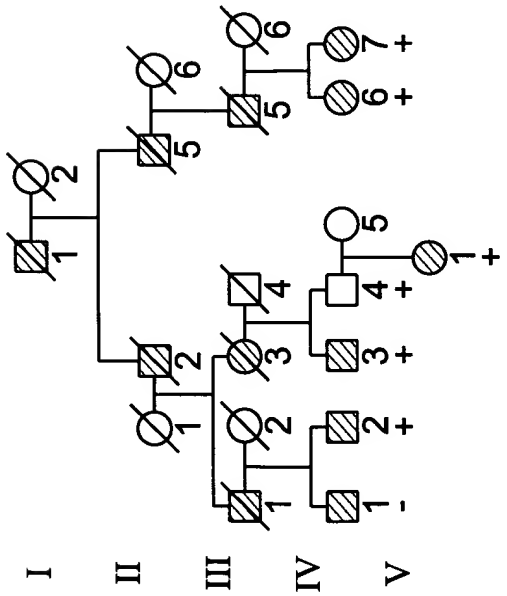

FIG. 6B

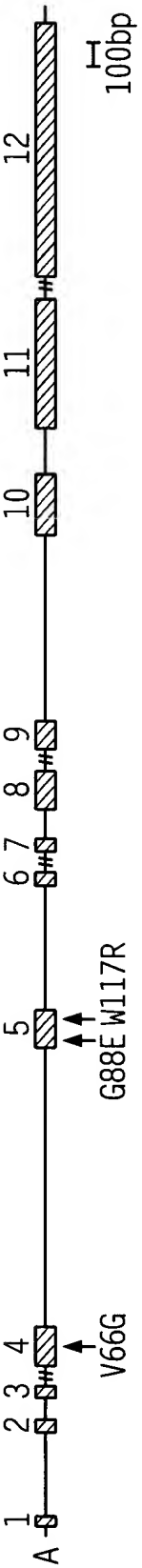
A
1
2
3
4
V66G
5
G88E W117R
6
7
8
9
10
11
12
100bp

FIG. 7A

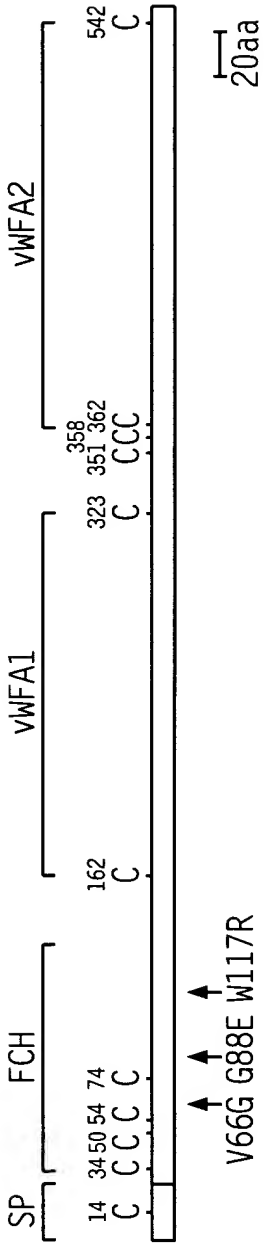
SP
FCH
vWFA1
vWFA2
14
C
34 50 54 74
C C C C
162
C
323
C
358
351 362
CCC
542
C
V66G G88E W117R
20aa

FIG. 7B

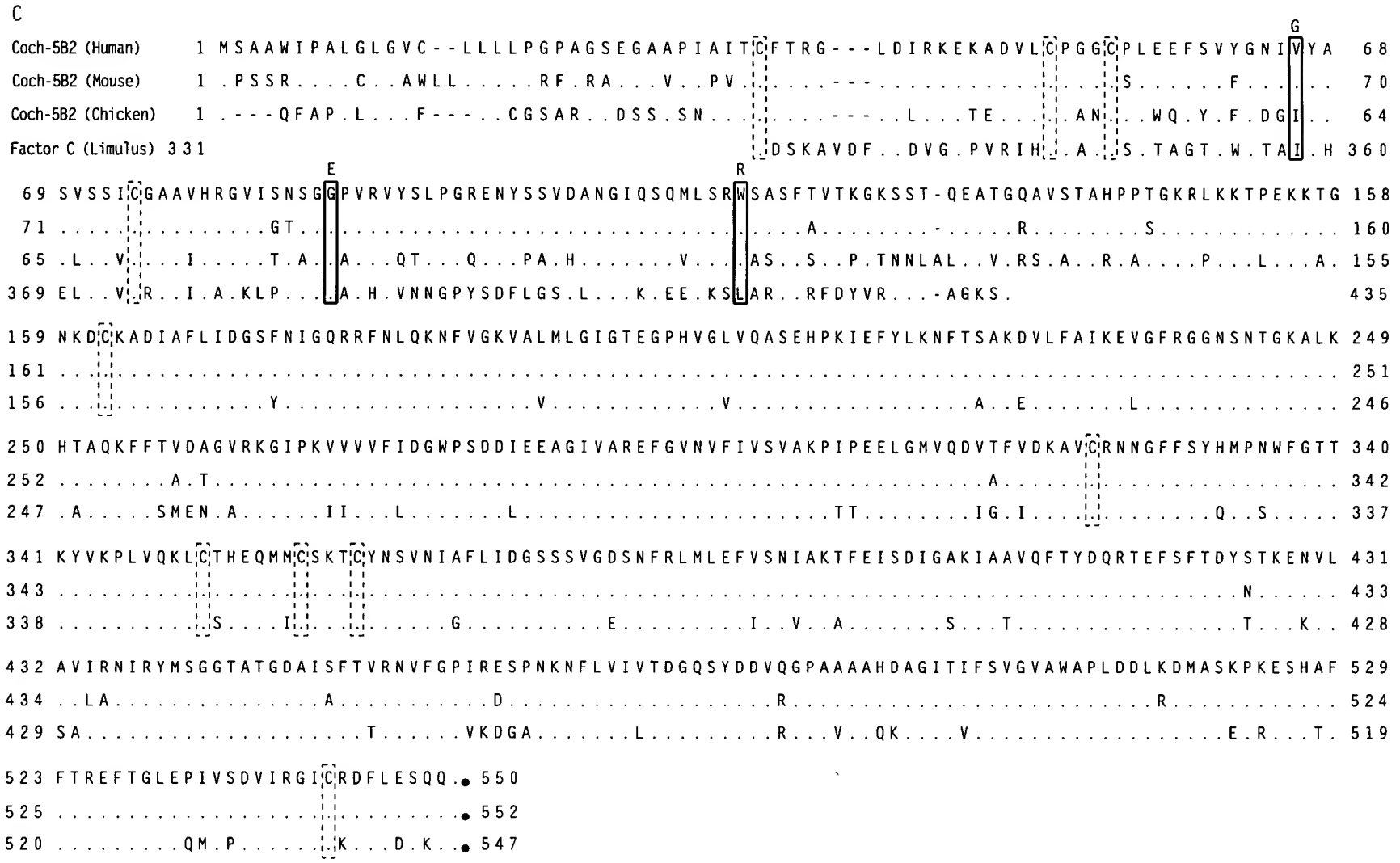
C
Coch-5B2 (Human) 1 MSAAWIPALGLGVC--LLLLPGPAGSEGAAPIAITCFTRG---LDIRKEKADVLCPGGCPLEEFSVYGNIVYA 68
Coch-5B2 (Mouse) 1 .PSSR....C..AWLL.....RF.RA...V..PV.....---.....S.....F..... 70
Coch-5B2 (Chicken) 1 ----QFAP.L...F-----.CGSAR..DSS.SN.....-------.L...TE.....AN...WQ.Y.F.DGI.. 64
Factor C (Limulus) 331 DSKAVDF..DVG.PVRIH..A..S.TAGT.W.TAI.H 360
69 SVSSICGAAVHRGVISNSGGPVRVYSLPGRENYSSVDANGIQSQMLSRWSASFTVTKGKSST-QEATGQAVSTAHPPTGKRLKKTPEKKTG 158
71 .....GT.....A.....-.....R.....S..... 160
65 .L..V...I.....T.A..A...QT...Q...PA.H.....V...AS..S..P.TNNLAL..V.RS.A..R.A....P...L...A. 155
369 EL..VR..I.A.KLP...A.H.VNNGPYSDFLGS.L...K.EE.KSLAR..RFDYVR...-AGKS. 435
159 NKDCKADIAFLIDGSFNIGQRRFNLQKNFVGKVALMLGIGTEGPHVGLVQASEHPKIEFYLKNFTSAKDVLFAIKEVGFRGGNSNTGKALK 249
161 251
156 .....Y.....V.....V.....A..E.....L..... 246
250 HTAQKFFTVDAGVRKGIPKVVVVFIDGWPSDDIEEAGIVAREFGVNVFIVSVAKPIPEELGMVQDVTFVDKAVCRNNGFFSYHMPNWFGTT 340
252 .....A.T.....A..... 342
247 .A.....SMEN.A.....II...L.....L.....TT.....IG.I.....Q..S..... 337
341 KYVKPLVQKLCTHEQMMCSKTCYNSVNIAFLIDGSSSVGDSNFRLMLEFVSNIAKTFEISDIGAKIAAVQFTYDQRTEFSFTDYSTKENVL 431
343 .....N..... 433
338 .....S....I.....G.....E.....I..V..A.....S...T.....T...K.. 428
432 AVIRNIRYMSGGTATGDAISFTVRNVFGPIRESPNKNFLVIVTDGQSYDDVQGPAAAAHDAGITIFSVGVAWAPLDDLKDMASKPKESHAF 529
434 ..LA.....A.....D.....R.....R..... 524
429 SA.....T.....VKDGA.....L.....R...V..QK....V.....E.R...T. 519
523 FTREFTGLEPIVSDVIRGICRDFLESQQ. 550
525 552
520 .....QM.P.....K...D.K.. 547

FIG. 7C